IN THE CLAIMS:

1. (Currently amended) A process for producing a cold field-emission cathode by patterning an aligned carbon nanotube film on a surface of a substrate for electrode, comprising the steps of;

preparing an aligned carbon nanotube film on a surface of a basic first substrate;

patterning a conductive binder on a surface of a second substrate for electrode; and

bonding a surface of the aligned carbon nanotube film to a surface of the conductive binder and then transferring the aligned carbon nanotube film from the basic first substrate to the conductive binder by stripping the first basic substrate from the conductive binder and the second substrate, leaving those portions of the aligned carbon nanotube film behind which have been bonded to the patterned conductive binder.

2. (Currently amended) A process for producing a cold field-emission cathode by patterning an aligned carbon nanotube film on a surface of a substrate for electrode, comprising the steps of:

preparing an aligned carbon nanotube film on a surface of a basic substrate;

bonding a surface of the aligned carbon nanotube film to a surface of a flexible substrate having a reversibly adhesive surface and then transferring the aligned carbon nanotube film from the basic substrate to the flexible substrate by stripping the basic substrate, leaving those portions of the aligned carbon nanotube film behind on the flexible substrate which have been bonded to the surface of the flexible substrate;

patterning a conductive binder on a surface of a substrate for electrode; and

bonding [[to]] a surface of the conductive binder to a surface of the aligned carbon nanotube film that has been transferred to the flexible substrate and then transferring the aligned carbon nanotube film from the flexible substrate to the conductive binder by stripping

the flexible substrate, leaving those portions of the aligned carbon nanotube film behind on the substrate for the electrode which have been bonded to the conductive binder.

3. (Currently amended) A process for producing a cold field-emission cathode by patterning an aligned carbon nanotube film on a surface of a substrate for electrode, comprising the steps of:

preparing an aligned carbon nanotube film on a surface of a basic substrate;

bonding a surface of the aligned carbon nanotube film to a surface of a first flexible substrate having a reversibly adhesive surface and then transferring the aligned carbon nanotube film from the basic substrate to the flexible substrate by stripping the basic substrate, leaving those portions of the aligned carbon nanotube film behind on the first flexible substrate which have been bonded to the reversibly adhesive surface;

bonding to a surface of a second flexible substrate having a reversibly adhesive surface a surface of the aligned carbon nanotube film that has been transferred to the first flexible substrate and then transferring the aligned carbon nanotube film from the first flexible substrate to the second flexible substrate by stripping the first flexible substrate, leaving those portions of the aligned carbon nanotube film behind on the second flexible substrate which have been bonded to the surface of the second flexible substrate:

patterning a conductive binder on a surface of a substrate for electrode;

bonding to a surface of the conductive binder a surface of the aligned carbon nanotube film that has been transferred to the second flexible substrate and then transferring the aligned carbon nanotube film to the conductive binder by stripping the second flexible substrate, leaving those portions of the aligned carbon nanotube film behind on the second flexible substrate which have been bonded to the conductive binder.

4. (Previously presented) The process according to claim 1, wherein the step of preparing an aligned carbon nanotube film on a surface of a basic substrate comprises decomposing a gaseous carbon compound in the presence of a basic substrate prepared by coating a supporting substrate with an inert substance and then allowing it to carry a transition metal catalyst or a transition metal compound catalyst, whereby a carbon nanotube film is grown on a surface of the basic substrate in a direction perpendicular to the basic substrate.

5. (Original) The process according to claim 4, wherein the inert substance with which the supporting substrate is coated is one member of the group consisting of aluminum, germanium and oxides thereof.

6. (Original) The process according to claim 4, wherein the supporting substrate is coated with the inert substance by vacuum evaporation, electrodeposition, sputtering or a sol-gel method.

7. (Original) The process according to claim 4, wherein the supporting substrate coated with the inert substance is allowed to carry a transition metal catalyst or a transition metal compound catalyst by impregnation, immersion or a sol-gel method.

8. (Original) The process according to claim 4, wherein the carbon compound is at least one member of the group consisting of saturated hydrocarbon compounds, unsaturated hydrocarbon compounds, aromatic hydrocarbon compounds and oxygen-containing hydrocarbon compounds.

9. (Previously presented) The process according to claim 1, wherein the carbon nanotubes composing the aligned carbon nanotube film have outside diameters not greater than 10 nm.

10. (Previously presented) The process according to claim 2, wherein the step of bonding a surface of the aligned carbon nanotube film to a surface of a flexible substrate having a reversibly adhesive surface comprises bringing the surface of the aligned carbon nanotube film into contact with the reversibly adhesive surface of the flexible substrate and performing drying, compressing, heating or thermocompression to bond the two members together.

11. (Previously presented) The process according to claim 1, wherein the substrate for electrode is an insulating plate with a conductive circuit preliminarily formed on a surface.

12. (Previously presented) The process according to claim 1, wherein the step of patterning a conductive binder on a surface of a substrate for electrode comprises depositing the conductive binder on a conductive circuit.

13. (Previously presented) The process according to claim 1, wherein the step of bonding a surface of the aligned carbon nanotube film to a surface of the conductive binder comprises bringing the surface of the aligned carbon nanotube film into contact with the surface of the conductive binder and performing drying, compressing, heating or thermocompression to bond the mating surfaces together.

14. (Previously presented) The process according to claim 1, wherein the conductive binder is conductive paste.

15. (Original) The process according to claim 14, wherein the conductive paste is conductive silver paste, conductive gold paste, conductive carbon paste or conductive copper paste.

16. (Previously presented) The process according to claim 1, wherein the conductive binder is a low-melting point metal.

17. (Original) The process according to claim 16, wherein the low-melting point metal is indium, tin, lead, zinc, copper or an alloy containing at least one of these metals.

18. (Previously presented) The process according to claim 2, wherein the flexible substrate having a reversibly adhesive surface is a resin sheet coated with a tackiness agent on a surface.

19. (Previously presented) The process according to claim 2, wherein the step of preparing an aligned carbon nanotube film on a surface of a basic substrate comprises decomposing a gaseous carbon compound in the presence of a basic substrate prepared by coating a supporting substrate with an inert substance and then allowing it to carry a transition metal catalyst or a transition metal compound catalyst, whereby a carbon nanotube film is grown on a surface of the basic substrate in a direction perpendicular to the basic substrate.

20. (Previously presented) The process according to claim 2, wherein the carbon nanotubes composing the aligned carbon nanotube film have outside diameters not greater than 10 nm.

21. (Previously presented) The process according to claim 2, wherein the substrate for electrode is an insulating plate with a conductive circuit preliminarily formed on a surface.

22. (Previously presented) The process according to claim 2, wherein the step of patterning a conductive binder on a surface of a substrate for electrode comprises depositing the conductive binder on a conductive circuit.

23. (Previously presented) The process according to claim 2, wherein the step of bonding a surface of the aligned carbon nanotube film to a surface of the conductive binder comprises bringing the surface of the aligned carbon nanotube film into contact with the surface of the conductive binder and performing drying, compressing, heating or thermocompression to bond the mating surfaces together.

24. (Previously presented) The process according to claim 2, wherein the conductive binder is conductive paste.

25. (Previously presented) The process according to claim 2, wherein the conductive binder is a low-melting point metal.

26. (Previously presented) The process according to claim 3, wherein the step of preparing an aligned carbon nanotube film on a surface of a basic substrate comprises decomposing a gaseous carbon compound in the presence of a basic substrate prepared by coating a supporting substrate with an inert substance and then allowing it to carry a transition metal catalyst or a transition metal compound catalyst, whereby a carbon nanotube film is grown on a surface of the basic substrate in a direction perpendicular to the basic substrate.

27. (Previously presented) The process according to claim 3, wherein the carbon nanotubes composing the aligned carbon nanotube film have outside diameters not greater than 10 nm.

28. (Previously presented) The process according to claim 3, wherein the step of bonding a surface of the aligned carbon nanotube film to a surface of a flexible substrate having a reversibly adhesive surface comprises bringing the surface of the aligned carbon nanotube film into contact with the reversibly adhesive surface of the flexible substrate and performing drying, compressing, heating or thermocompression to bond the two members together.

29. (Previously presented) The process according to claim 3, wherein the substrate for electrode is an insulating plate with a conductive circuit preliminarily formed on a surface.

30. (Previously presented) The process according to claim 3, wherein the step of patterning a conductive binder on a surface of a substrate for electrode comprises depositing the conductive binder on a conductive circuit.

31. (Previously presented) The process according to claim 3, wherein the step of bonding a surface of the aligned carbon nanotube film to a surface of the conductive binder comprises bringing the surface of the aligned carbon nanotube film into contact with the surface of the conductive binder and performing drying, compressing, heating or thermocompression to bond the mating surfaces together.

32. (Previously presented) The process according to claim 3, wherein the conductive binder is conductive paste.

33. (Previously presented) The process according to claim 3, wherein the conductive binder is a low-melting point metal.

34. (Previously presented) The process according to claim 3, wherein the flexible substrate having a reversibly adhesive surface is a resin sheet coated with a tackiness agent on a surface.

35. (Previously presented) The process of claim 1, wherein said carbon nanotube film comprises carbon nanotubes that are vertically aligned with respect to said basic substrate.

36. (Previously presented) The process of claim 2, wherein said carbon nanotube film comprises carbon nanotubes vertically aligned with respect to said basic substrate.

37. (Previously presented) The process of claim 3, wherein said carbon nanotube film comprises carbon nanotubes vertically aligned with respect to said basic substrate.